REMARKS

This Amendment, submitted in response to the Office Action dated June 16, 2008, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested

1. Summary of Office Action

Claim 13 is rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter.

Claim 11 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Igarashi et al.(US 5,539,466 A; hereafter "Igarashi").

Claims 1-3, 6-8, and 12-16 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Igarashi in view of Maturi et al. (US 5,731,850 A; hereafter "Maturi"), in view of Acampora et al. (US 5,168,356 A; hereafter "Acampora"), and in view of Ng et al. (US 5,185,819 A; hereafter "Ng").

Claims 4, 5, 9, and 10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Igarashi, Maturi, Acampora and Ng as applied to claims 1 and 6 above, and further in view of Legal (US 5,878,166 A).

2. Rejection under 35 U.S.C. § 101

With regard to claim 13, the Examiner alleges that the language "computer readable medium recording a program" is insufficient to define statutory subject matter. Paragraph 59 corresponding to the claim is also alleged to be insufficient to make the claim statutory.

In this Amendment, Applicant amends claim 13 and paragraph 59, and respectfully submits that the amended claim defines statutory subject matter.

3. Prior Art Rejection under 35 U.S.C. § 103(a) - Claim 11

In rejecting claim 11 under obviousness rationale, the Examiner alleges, inter alia,

> while it is acknowledged that Igarashi discloses bidirectional prediction as an average of forward and backward prediction (column 19: lines 9-10), it is respectfully submitted that the removal of interpolative prediction would produce a mere obvious variant, since it has been held that the omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. See *In re Karlson*, 136 USPQ 184.

In this Amendment, claim 11 is amended to more clearly define a patentable feature described in the specification, and thus, Applicant respectfully submits that the amended claim should be allowable over Igarashi. Support for the amendment can be found at least at paragraphs 21, 42 and 61 of the specification.

The claimed encoding apparatus is characterized in that it determines an MC mode for performing an interpolative frame MC or an interpolative field MC even without using any of an interpolative frame SAD, an interpolative top field SAD, and an interpolative bottom field SAD. In the art, these interpolative SADs are known to be obtained by performing an interpolative MC(s) (e.g., through the units 140, 141 and 142 of Fig. 1 of the present application). See paragraphs 21, 42 and 61 of the specification.

As to the above characteristic of the claimed encoding apparatus, the Examiner may assert again that removal of (i.e., not using) interpolative SADs would produce a mere obvious variant relying on *In re Karlson*. However, it should be noted from Igarashi that the coding apparatus and method cannot help using an interpolative SAD since, as the Examiner admits, Igarashi's coding apparatus/method performs bidirectional prediction that necessarily produces an interpolative SAD, while this bidirectional prediction is known in the art as corresponding to interpolative prediction or interpolative MC.

More importantly, the B frame processing (col. 18, lines 64-65) of Igarashi clearly requires this bidirectional prediction to obtain a minimum of the forward prediction, the backward prediction, and the bidirectional prediction, because, without (i.e., omitting) this bidirectional prediction, an intended minimum is determined only between the forward prediction and the backward prediction.

That being said, Applicant submits that omitting this bidirectional prediction (i.e., not producing and using an interpolative SAD) is *not* consistent with the Igarashi invention, and thus, determination only between the forward prediction and the backward prediction (i.e., the remaining elements) cannot select a prediction with a minimum predictive error (i.e., perform the same function as before). Here, it is notable that the court has held that "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Since modification of Igarashi by omitting a bidirectional prediction corresponding to interpolative MC to produce an interpolative SAD may render Igarashi's coding apparatus unsatisfactory for its intended purpose, there is no suggestion or motivation to omit the bidirectional prediction, that is, not using an interpolative SAD.

Thus, the Examiner's assertion relying on *In re Karlson* does not serve to justify the obviousness rejection.

By contrast, it is well settled that

> the omission of an element and retention of its function is an indicia of unobviousness. *In re Edge*, 359 F.2d 896, 149 USPQ 556 (CCPA 1966).

The claimed apparatus is defined such that it may be able to determine a mode for an interpolative frame MC or an interpolative field MC even without using any interpolative SAD which is required in the related art. That is, omission of using an interpolative SAD and retention of determining an interpolative MC is established in the present application.

Therefore, the claimed apparatus should not be rendered obvious in view of Iragashi, and Applicant respectfully requests withdrawal of the rejection of claim 11.

4. Prior Art Rejection under 35 U.S.C. § 103(a) - Claims 1-3, 6-8 and 12-16

Claims 1, 6, 12 and 13 are amended in this Amendment to correspond to claim 11, and Applicant submits that the claims should be allowable at least for the same reasons for claim 11.

Further, these claims are further distinguished from the references due to the difference between a motion vector and an SAD as discussed below.

With respect to claim 1, the Examiner states in the office action (page 4, lines 12-13) that "the selection of an MV (motion vector) corresponds to that of an SAD", and thus, appears to allege that determining an MC mode based on a selected MV in Acampora teaches determining an MC mode based on an identified SAD as recited in claim 1. As known in the art, however, the MV is not an SAD, even though an MV and an SAD may be obtained with respect to the same two frames. Thus, there could not have been any suggestion or motivation to replace an SAD of Iragashi by an MV of Acampora.

At least under the foregoing analysis, claim 1 and corresponding claims 6, 12 and 13 are further distinguished from the references.

Claims 2-3, 7-8 and 16 should be allowable at least due to their dependencies and additionally recited elements.

Claims 14 and 15 are canceled as the subject matter recited therein is covered by amended claims 1 and 6.

5. Prior Art Rejection under 35 U.S.C. § 103(a) - Claims 4, 5, 9, and 10

These claims should be allowable at least due to their dependencies and additionally recited elements.

6. New Claims

Applicant adds new claims 17-21 to more fully cover the present application. Support for the new claims is found at least in paragraphs 21, 42 and 61 of the specification.

The new claims further clarifies that the claimed method and apparatus do not perform an (initial) interpolative MC to produce the interpolative frame SAD, the interpolative top field SAD, and the interpolative bottom field SAD. Since Igarashi necessarily requires bidirectional prediction corresponding to the interpolative MC, the claims are clearly distinguished from

Igarashi, and other cited references also do not teach or suggest this aspect. Accordingly, entrance and allowance of the new claims are respectfully requested.

7. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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